

**What is claimed is:**

1. A wireless set-top box system comprising:

a set-top box operable to receive function control instructions, generate on-screen-display (OSD) information corresponding to the function control instruction, display the OSD information on a first screen, and wirelessly transmit the function control instruction; and

a display device operable to receive the function control instruction wirelessly transmitted by the set-top box, generate OSD information corresponding to the function control instruction, and display the OSD information on a second screen.

2. The system of claim 1, wherein the set-top box comprises:

a first signal processor operable to extract transport streams from broadcast signals, decode the transport streams into video and audio signals, and manipulate the video and audio signals according to the function control instructions;

an infrared receiving unit operable to receive infrared key signals from a remote control device and amplify the infrared key signals to a predetermined amplitude;

a first controller operable to extract a key code that corresponds to the function control instruction from the infrared key signals received from the infrared receiving unit, and output the key code corresponding to the function control instruction to the first signal processor;

a first OSD generating unit operable to generate OSD information corresponding to the key code generated by the first controller;

a first mixing unit operable to mix video signals generated by the first signal processor and the OSD information generated by the OSD generating unit;

a first display unit operable to display the mixed signals of the video signals and the OSD information received from the first mixing unit; and

a transmitting module operable to convert the transport streams extracted by the signal processor and the key code extracted by the first controller into radio signals in a predetermined format and transmit the radio signals through different respective channels.

3. The system of claim 2, wherein the display device comprises:

a receiving module operable to divide the radio signals received from the transmitting module into the transport streams and the key code;

a second signal processor operable to decode the transport streams received from the receiving module to video and audio signals and manipulate the video and audio signals according to a function control instruction;

a second controller operable to extract the key code that corresponds to the function control instruction from the radio signals received from the receiving module, and output the key code corresponding to the function control instruction to the second signal processor;

a second OSD generating unit operable to generate OSD information corresponding to the key code generated by the second controller;

a second mixing unit operable to mix video signals generated by the second signal processor and the OSD information generated by the second OSD generating unit; and

a second display unit operable to display the mixed signals of the video signals and the OSD information generated by the second mixing unit.

4. A monitoring method for a set-top box system comprising a set-top box and a display device wirelessly connected to each other, the method comprising:

(a) the set-top box, in response to a received key instruction, generating and displaying OSD information that corresponds to the key instruction on a set-top box screen and wirelessly transmitting the key instruction;

(b) the display device generating OSD information that corresponds to the key instruction received from the set-top box and displaying the OSD information on a display device screen.

5. The method of claim 4, wherein step (a) comprises:

converting the received key instruction to a corresponding key code which is stored in advance;

generating OSD information that corresponds to a function control instruction of the key code while modulating the key code to a radio signal; and

transmitting the modulated radio signal through a channel separate from an audio/video channel.

6. The method of claim 5, wherein step (b) comprises;

receiving the radio signal through the channel separate from the audio/video channel;

demodulating the radio signal to extract the key code;

generating OSD information that corresponds to the key code; and

displaying the OSD information on the display device screen.